

Syllabus:

MA746 Fourier Analysis [4-0-0-8] Prerequisites: Nil

Orthogonal systems, Trigonometric system, Fourier series in these systems, Uniqueness and convergence, Fourier series of continuous and smooth functions, L^2 theory of Fourier series - inversion formula and the Parseval identity, Fourier analysis and complex function theory, Paley Wiener's theorem, Tauberian theorem, Dirichlet problem, Bessel functions, Orthogonal polynomials, Fourier analysis and filters, Fourier transforms and distributions.

Texts:

1. Dym, I. H. and Mc Kean, H. P., Fourier Series and Integrals, Academic Press, 1985.
2. Folland G.B., Fourier Analysis and Applications, Brooks/ Cole Mathematics Series, 1972.
3. Katznelson, Y., An Introduction to Harmonic Analysis, Dover, New York, 1976.
4. Korner, T., Fourier Analysis, Cambridge, 1989.
5. Rudin, W., Functional Analysis, Tata Mc. Graw Hill, 1974.